

Equity

Liberty

Security

Efficiency

Thinking in Fours

Christopher R. Paparone

Are you a manager who relies on linear thinking (i.e., systems engineering approaches like Lean and Six Sigma) to manage change in his or her organization? Or are you best described as a non-linear thinker—the alternative to linear, which calls for patterned thinking?

Paparone is an associate professor in the Army Command and General Staff College's Department of Logistics and Resource Operations.

Here is a quick way to test your preferences:. (Note: This information is derived from a study conducted by Charles Vance, Kevin Groves, Tongsun Paik, and Herb Kindler, published in the 2007 article in the Academy of Management Learning and Education journal, "Understanding and Measuring Linear—Nonlinear Thinking for Enhanced Management Education and Professional Practice")

Characteristics of Linear Thinkers

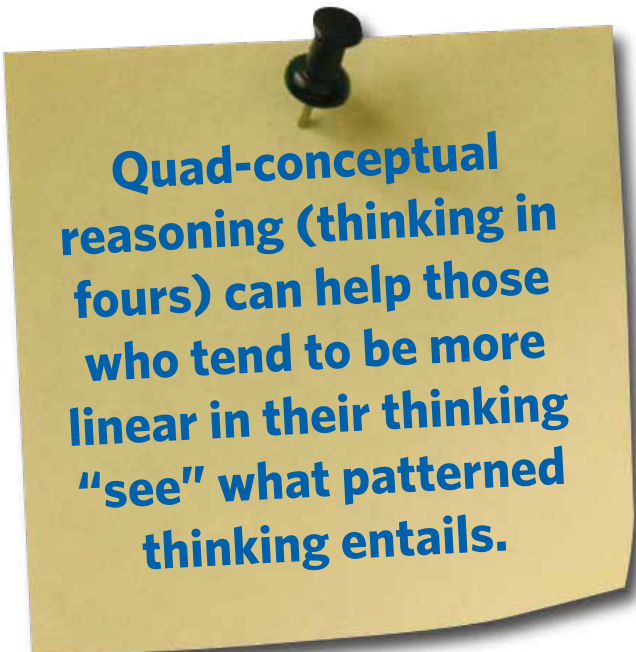
- I primarily rely on logic (if-then statements) when making decisions.
- I like using quantitative factors when making big decisions, such as return on investment, relative weights of decision criteria, and so on.
- When making important changes, I take note when multiple subject matter experts give me the same advice.
- The most important factor in making changes is to know that the decision is based on objective, verifiable facts.
- When my analysis and my intuition are in conflict, I go with analytical reasoning.

Characteristics of Pattern (Nonlinear) Thinkers

- I primarily rely on my feelings when making decisions.
- I like using qualitative factors when making decisions, such as my gut feelings or a sense that the decision is right.
- When making important changes, I pay close attention to "knowing in my bones," chills, tingling, or other physical sensations.
- The most important factor in making changes is that it feels right to me.
- When my analysis and intuition are in conflict, I give precedence to my intuitive insights.

The authors who posed these dichotomous characteristics argue that pattern thinkers are more effective when facing complex, turbulent, unpredictable, and uncertain situations than linear thinkers, who rely on analysis, logic, reason, and cause-effect predictability.

At the risk of sounding paradoxical (i.e., making intuitive processes more explicit), I have found one way of demonstrating patterned thinking—with the use of a four-square model. Quad-conceptual reasoning (thinking in fours) can help those who tend to be more linear in their thinking "see" what patterned thinking entails.



Quad-conceptual reasoning (thinking in fours) can help those who tend to be more linear in their thinking "see" what patterned thinking entails.

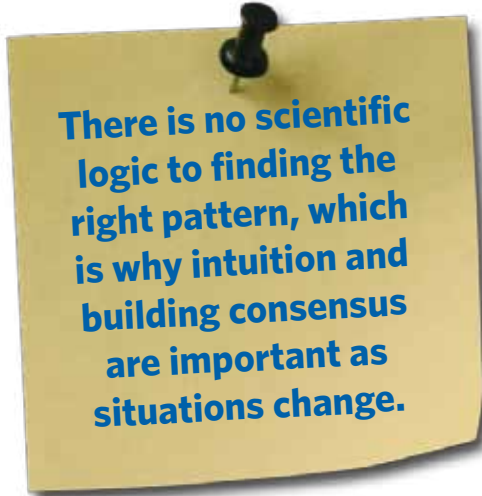
Four-Square Patterned Thinking

The basic patterned-thinking model is arranged in four squares, and the areas between and among the resulting quadrants depict the power struggles for dominance. Instead of ruling out alternative hypotheses and deciding on a course of action, four-square patterns call upon us to embrace contradictions as naturally occurring phenomena. Thinking simultaneously as you look at all four

squares takes us beyond linear (one best solution) thinking and makes it possible for us to make sense of today's complex world in a circular, interconnected, and interdependent way. Four squares give us a framework to see the complex, four-way, interdependent, and interactive nature of change management that take us beyond traditional linear processing associated, for example, with the traditional hierarchical and linear models of strategy→operations→tactics. In short, four squares help us visualize a more holistic approach to thinking about messy problems.

A Practical Example

Here is a practical example that should help you visualize the contradictions that are not so obvious in the more linear modes of thinking and modeling. In addressing policy and strategy for national defense, Pentagon and combatant command planners rightfully focus on security as the principal objective. All activities are geared to that objective, even to the point where planners believe other federal, state, and local agencies should be engaged in the same objective. The



There is no scientific logic to finding the right pattern, which is why intuition and building consensus are important as situations change.

goal of security seems daunting, and it reflects that linear thinking is still at work.

But what if a four-square model of thinking was used in planning national defense? Using the four competing goals described by Debora Stone in her book *Policy Paradox*, a four-square model of thinking can be formed that has the goals of:

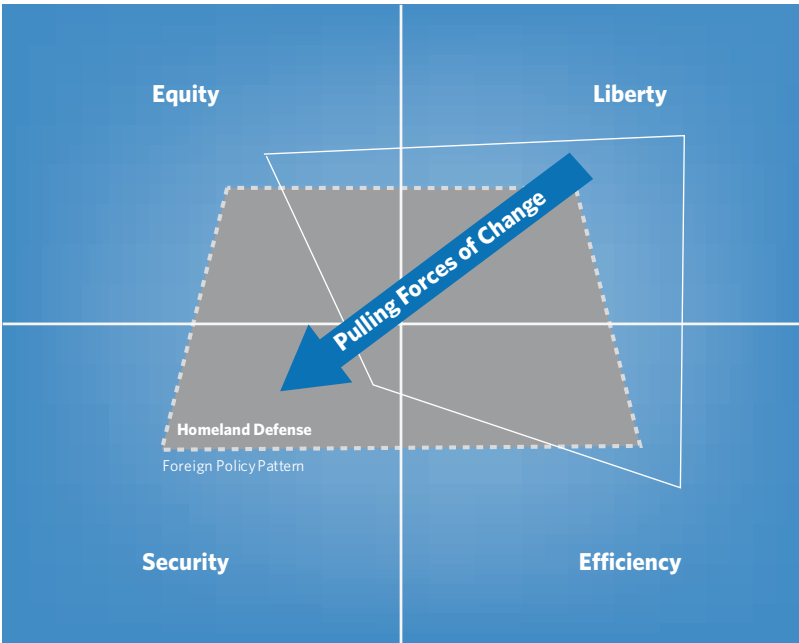


Figure 1. The Pattern of Competing Goals

- **Equity**—Redistribution of value that fuels debate between domestic and defense spending, for example.
- **Liberty**—Autonomous freedom that ideally leads to political consensus on limits imposed by the other three goals.
- **Efficiency**—A comparative concept of most output for the input, associated with a free market economy.
- **Security**—What is needed for physical protection and survival.

But how does the four-square model relate to patterned thinking? Applying the four-square model of thinking to the post-Sept. 11, 2001, world (see Figure 1), you can see how the terrorist attacks influenced the domestic goal patterns sharply from the A-B horizontal axis to the C-D axis—with the growing perceived tradeoffs, especially in efficiency and liberty. “Seeing the pattern” (and pattern-shifts over time) tells us that it is important we think beyond the singular goal of protecting ourselves, and that we must not cause damage to the other goals in the process (to include checks and balances, democratic processes, human rights, freedom, meritocracy, open markets, ethics-based institutions, etc.) in the name of security. The pattern does not show a linear decision model of foreign or domestic policy options, but, rather, shows an interactive web of tradeoffs that will shift as conditions change.

But let us not stop there. Figure 2 demonstrates that if we go too little or too far in any one direction, we may end up with an imbalanced state of affairs. Going too far with equity can result in unproductive socialism (with free ridership, public apathy, and chaotic governance); too much liberty can be anarchic (with lawlessness, public belligerence, and chaotic governance); too much emphasis on efficiency can encourage greed and concentration of wealth (monopolies with justifiable labor hostility and rigid, partial governance); and, finally, resourcing security may also create too much bureaucracy (with more red tape and the potential stifling of innovation).

Practical Application

How can a manager apply these sorts of patterns in their day-to-day operations and to future planning efforts? Here’s where creative thinking can complement patterned thinking. Develop lists of goals that are important to your organization and place them against opposing goals that, in some cases, might also be valuable. Set up the four-square model and draw the patterns you perceive operating now and the ones you would like to change. For example, here is a list of competing goals that might help you get started (taken from Kim Cameron’s and Robert Quinn’s book *Diagnosing and Changing Organizational Culture*):

- I’d like my organization to be more of a personal place, like an extended family, where we share a lot more of ourselves.
- This place should be more dynamic and entrepreneurial, where people are more willing to stick their necks out and take risks.

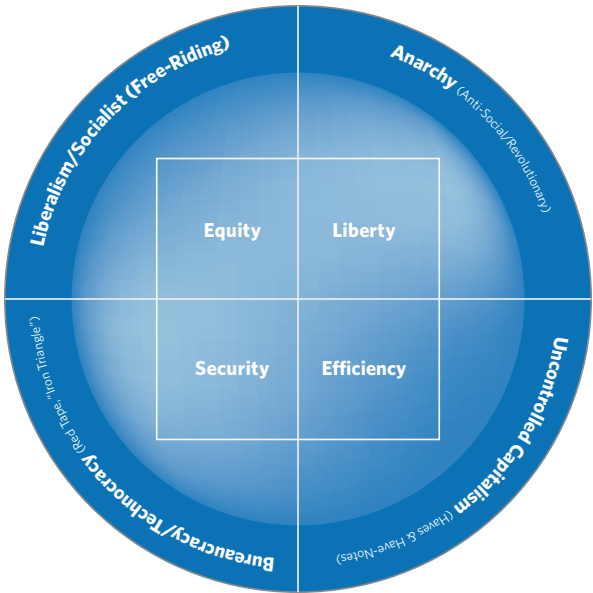


Figure 2. The Need for a Balanced Pattern

- We have to be more results-oriented and more concerned with getting the job done—ultimately making our organization more competitive and achievement-oriented.
- We have to improve the control and structure in this place, tightening up our formal procedures that should govern what our workforce does.

Using a 100-point scale, distribute the points into the pattern (Figure 3). This should help you intuit the complexity of the goal setting you are undertaking and help you assess balance among competing concepts. Try having others do the same and then compare patterns—perhaps now acknowledging

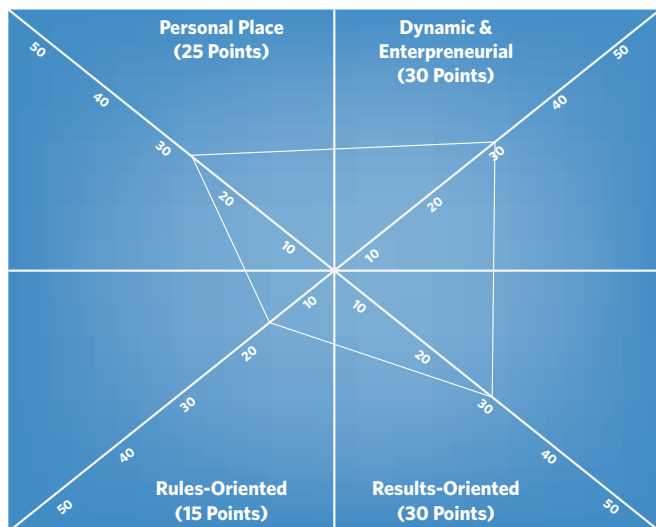


Figure 3. Judgment of Situational Balance

that others have differing views when faced with the paradox of competing values.

Brain researchers such as Ned Herrmann (author of the *Whole Brain Business Book*) claim that patterned thinking in most humans is limited to four competing concepts at a time. There are other studies that also indicate the human brain may at best be quadrifrontic (four-way looking [as outlined in Robert Quinn's and Kim Cameron's book *Paradox and Transformation*]), so I would not recommend exceeding the two-dimensional four-square approach—at least while getting used to the idea of patterned thinking.

The trick is to intuit about the right pattern that will make your organization more effective. There is no scientific logic to finding the right pattern, which is why intuition and building consensus are important as situations change. As organizations attempt to adapt appropriately to prevailing conditions, thinking in fours may help.

The author welcomes comments and questions and can be contacted at christopher.paparone@us.army.mil.

Need for Balance

I read Jaime Gracia's article "Questioning Uncle Sam" in the September-October 2009 issue of *Defense AT&L* magazine. I thought the article made quite a few good observations and recommendations, but at the same time, I felt a little short-changed by the article.

I have no illusions that the acquisition system doesn't need some fixing, but any complex system does. Gracia only provided two glaring examples (Alliant and KC-X) in condemning the whole acquisition system and its leaders (generally), while at the same time saying that some "companies are using protests as a strategic weapon to ensure they remain viable."

The author made many good points, but I feel the article could have been more balanced by showing that of the 1,600 protests filed in 2008, what percentage of them were actually sustained.

E. Sanchez

ACC Acquisition Management
and Integration Center

Addressing EVM

I had concerns with the scenarios and with other parts of an article that appeared in the September-October 2009 issue of *Defense AT&L*, "Advancing EVM and Government Contracting Efficiencies," written by Daniel A. Zosh.

The article states, "In a typical DoD weapons system procurement, much of the cost of the system is expended during research and development and, therefore, there's a large amount of profit consideration given to the contractors' developing systems that exist only on paper as technical specifications." This depends on how one defines "much of the cost of the system." For most system programs, the amount for research and development is somewhere around 20 percent or less, while operations and support costs may exceed 50 percent.

What is clearly true is that decisions made early in a program's development, before much of the life cycle cost has been expended, commit the government to expenditures throughout the total life of the system.